

CLAIMS

What is claimed is:

1. A visualization system for a machine-tool or production machine, comprising:
a measuring and simulation system operatively connected to the machine-tool or production machine, said measuring and simulation system simulating a desired response of the machine-tool or production machine using simulation parameters and measuring an actual response of the machine-tool or production machine with the simulation parameters; and
a single display screen for visualizing the desired response and the actual response simultaneous side-by-side on the single display screen.
2. The system of claim 1, wherein the measuring and simulation system is operatively connected to the machine-tool or production machine by a data link.
3. The system of claim 1, wherein the measuring and display system is implemented as an integral system component of the machine-tool or production machine.
4. The system of claim 2, wherein the measured actual response is transmitted via the data link in form of analog data.

5. A method for visualizing a simulated and measured response from a machine-tool or production machine, comprising the steps of:
 - simulating a response from the machine-tool or production machine;
 - determining characteristic parameters associated with the simulated response;
 - setting control parameters of the machine-tool or production machine based on the determined characteristic parameters;
 - measuring an actual machine response obtained with the control parameters; and
 - displaying the simulated response and the measured actual response simultaneously side-by-side.
6. The method of claim 5, wherein the characteristic parameters are selected from the group consisting of rotation speed control parameters, position control parameters, travel paths of workpieces, frequency responses, transfer functions and step responses.
7. The method of claim 5, wherein the simulated response and the measured actual response comprises an amplitude-frequency response of the machine-tool or production machine.

8. A measuring and simulation system for a machine-tool or production machine, wherein measurement and simulation results are visualized simultaneously side-by-side on a common monitor display screen.
9. The measuring and simulation system of claim 8, wherein the measurement results are transmitted from the machine-tool or production machine to the measuring and simulation system via a data bus system or a data network.
10. The measuring and simulation system of claim 9, wherein the measurement results are analog data.